# EMERGENCY PREPAREDNESS

PROGRAM APPLICABILITY: 2600

## 88050-01 INSPECTION OBJECTIVES

The objectives of the Emergency Preparedness procedure are to determine whether:

01.01 The regulatee's emergency preparedness program is maintained in a state of operational readiness.

01.02 The regulatee's emergency preparedness program is properly coordinated with offsite support agencies.

01.03 The regulatee conducts an audit of such depth to provide assurance that the emergency preparedness program is being properly maintained and implemented in accordance with requirements and commitments in the license or certificate.

## 88050-02 INSPECTION REQUIREMENTS

02.01 Program Changes. Through discussions with regulatee personnel and records reviews:

a. Determine whether any changes made to the regulatee's emergency preparedness program since the last IP 88050 inspection meet licensing commitments and NRC requirements. Also determine if any changes to the site or facility that affect the emergency preparedness program have been properly addressed in the Emergency Plan.

b. Verify that the regulatee has not made any changes that could decrease the overall effectiveness of the emergency preparedness program without prior NRC approval.

c. Determine whether changes to the Emergency Plan are reviewed, approved, and distributed in accordance with procedures and/or license or certificate commitments.

d. Determine whether any changes to the emergency preparedness program have been properly coordinated with the appropriate offsite support groups and agencies.

e. Determine whether the regulatee has evaluated any significant facility additions and/or modifications for their impacts on the emergency preparedness program,

and if so the regulatee has made the appropriate revisions to the Emergency Plan and implementing procedures.

f. Determine whether the regulatee's emergency call list is current.

02.02 Implementing Procedures.

a. Review of a sample of changes since the last IP 88050 inspection to determine:

1. Whether the implementing procedures have been reviewed and approved as specified in the Plan.

2. Whether any changes did not result in a decrease in the effectiveness of the Emergency Plan implementation.

3. Whether current copies of the Emergency Plan and implementing procedures are readily available to members of the emergency response organization, and are maintained current in the appropriate field locations.

b. Determine whether the procedures provide for the detection and proper classification of accidents, mitigation of the consequences of accidents, assessment of releases, protective actions recommendations, personnel accountability, notification and coordination, and authority for initiating evacuation alarms and safe shutdown. Determine whether procedures also include guidance for site recovery/reentry, and restoring the facility to a safe condition after an accident involving either radioactive or other hazardous materials. If any shutdown procedure is necessary, determine whether the procedure is in place and can be performed from an appropriate location.

c. Determine by observation, discussion, and document review that reentry is controlled by written procedures and that equipment such as radios and radiation detection devices are available for the reentry team. Determine whether the criticality accident alarm system can and will be silenced at an external plant area before reentry and that a control center is available for personnel accountability and reentry.

d. Determine whether nuclear criticality safety (NCS) precautions for firefighting are included in the emergency procedures. Determine whether for areas in which firefighting restrictions exist because of NCS concerns, appropriate postings are in place that clearly and concisely portray such restrictions.

e. Determine whether the pre-fire plans are current and reflect any special considerations such as unique chemical hazards or areas where water must be excluded for firefighting due to NCS concerns. This should not entail an in-depth review of the pre-fire plans, as that is covered in separate inspections per IP 88055, “Fire Protection.” In the inspection planning process, the inspectors should review the last IP 88055 inspection report to preclude duplication of effort.

02.03 Training and Staffing.

a. By discussions with regulatee personnel on their various responses to hypothetical emergency situations, and also by records reviews, determine whether the regulatee has provided training that is effective and consistent with the frequency and performance objectives outlined in the Emergency Plan. For those individuals who cannot readily or correctly describe their responses to hypothetical emergency response situations, review the associated training records to determine whether those individuals' training is current and if the quality or frequency of their training is adequate.

b. Through document reviews and discussions with onsite personnel, determine whether training was provided that covered site-specific emergency procedures. Determine whether the training covered the responsibilities of onsite personnel in the event of those accident scenarios postulated as the most probable for the specific site, including the use of team training for such scenarios.

c. Determine whether the training covers the use of any special emergency equipment such as communication devices, respirators or self contained breathing air (SCBA) packs, chemical-resistant suits, monitoring devices for radioactive or other hazardous materials, etc. Determine whether personnel required to use such equipment have been properly qualified.

d. Review the training that the regulatee provides to offsite responders, including fire, police, medical, and other emergency personnel. Determine whether training includes any special instructions and orientation tours. Site-specific and special hazards should be covered, including the location and nature of radioactive and/or hazardous materials and moderator exclusion areas where water is prohibited for fire fighting. Periodic refresher training should be offered.

e. Determine whether the regulatee has established and implemented provisions to ensure appropriate staffing levels of trained emergency personnel for all shifts.

02.04 Offsite Support Agencies.

a. Determine whether written agreements have been made with each agency specified in the Emergency Plan and that those agreements have been updated and renewed at the required frequency.

b. Determine whether by random selection, the agencies for which agreements are in effect are periodically contacted by the regulatee for training and taking part in drills or otherwise reviewing the plans in the agreements so that the agencies are familiar with their respective roles in emergency responses.

c. Contact, by random selection, certain offsite agencies such as the local hospital(s), fire department(s), and the State radiological health agency, to determine their understanding of their respective written agreements with the regulatee. If it is found that the agencies do not fully understand what is expected of them, bring any deficiencies to the regulatee's attention for action.

d. Determine whether the regulatee has maintained its certification of compliance with the Emergency Planning and Community Right-To Know Act of 1986.

02.05 Tests, Drills and Exercises.

a. Determine whether the regulatee conducts quarterly communications checks with offsite response organizations, to check and update all necessary telephone numbers.

b. Determine whether the regulatee has provisions for updating the Emergency Plan based on the incorporation of management-approved recommendations from audits, drills, actual events and training.

c. Determine by observations, discussions, and document reviews that personnel accountability is to be accomplished promptly after evacuation so that any search and rescue efforts and medical treatment can be promptly initiated.

d. Determine whether there have been past operational events that required implementation of the site Emergency Plan. If so, determine whether there were any problems or deficiencies associated with the Emergency Plan and that the regulatee has corrected those deficiencies.

02.06 Emergency Equipment and Facilities.

a. Selectively examine the emergency equipment and kits specified in the Emergency Plan, including any onsite medical facilities. Determine whether they are checked and serviced at the required frequencies. Determine whether proper inventory levels are maintained and periodically checked. Verify that the equipment is operable and maintained in good condition. In the event emergency kits are provided to local hospitals for use in responding to injured, contaminated workers, determine whether the contents of the kits are properly maintained. Verify that the kits contain appropriate quantity and number of dosimetry and survey instruments, which is operational and within calibrated.

b. Examine onsite and offsite rendezvous facilities or areas where personnel must go for a given severity-level accident (e.g., "Alert", "Site Area Emergency") and determine whether the areas are readily accessible and contain operable and adequate communications and other gear as specified in the Emergency Plan.

c. The Emergency Plan should describe the types of sampling or other actions to be taken during an emergency involving extensive effluent releases and accidental criticality. Offsite effluent sampling and retrieval of TLDs and film badges should also be specified. Physically examine a sample of the offsite equipment to determine whether it meets the specifications in the Emergency Plan. Determine whether the equipment is operable and properly maintained.

02.07 Audits and Assessments.

a. Review and discuss the auditors' qualifications in the area of emergency preparedness.

b. Determine whether audit findings and recommendations are provided to plant

management.

c. Determine whether a system is in place for adequately tracking and resolving audit findings and that this system is being properly used.

**NOTE:** Most audit and assessment reviews will be performed in Inspection Procedure 88005. Exceptions are the audit reviews of technical functions such as emergency preparedness and nuclear criticality safety which will be reviewed in Inspection Procedures 88050 and 88015 respectively.

## 88050-03 INSPECTION GUIDANCE

General Guidance. 10 CFR 40.31(j)(3), 10 CFR 70.22(I)(3), and 10 CFR 76.91 describes the basic elements of the emergency preparedness program. Regulatory Guide 3.67, "Standard Format and Content for Emergency Plans for Fuel Cycle and Materials Facility," provides guidance acceptable to the NRC staff on the information to be included in Emergency Plans. Some facilities are not required to have NRC approved Emergency Plans per 10 CFR 70.22(I), but will have an Emergency Procedure as part of their plant procedures. The specific requirements pertaining to how the regulatee will address those required elements are contained in the NRC approved Emergency Plan, which is part of the license or certificate.

The specific requirements for each regulatee are defined in that regulatee's Emergency Plan and procedures. Because this Inspection Procedure is to be applied to a variety of regulatees, certain items listed below might not be applicable to a specific regulatee.

Specific Guidance.

03.01 Program Changes.

The inspector must use professional judgment and consult with NRC regional and/or headquarters experts in determining whether changes could impact the effectiveness of the regulatee's Emergency Plan. Changes that should be considered include those that involve the regulatee's organizational structure, responsibilities, authorities, staffing levels, and key emergency personnel. Other items that could impact the effectiveness of the Emergency Plan include significant plant changes or modifications (such as the addition of a new process or technology, the addition of new hazardous materials, or changes in inventories of existing hazardous materials) and changes to the agreements with the offsite support agencies. Emergency Plan updates should include management approved recommendations such as those coming out of the Nuclear Chemical Process Safety Program examination elements (such as Hazard Investigation and Assessment, Incident Investigation, and Audit and Inspections Programs) pertaining to emergency response. The inspector should determine whether that the regulatee has established management controls to ensure that the Emergency Plan is maintained up to date and offsite support agencies are kept current with program revisions. Those controls should also establish guidance for identifying when prior NRC approval is required for proposed changes to the program.

03.02 Implementing Procedures.

General Guidance. The implementing procedures should have been reviewed in detail when they are/were initially deployed. After that, only a sample of procedure revisions need be reviewed to determine whether the procedures remain usable to the onsite staff and changes did not result in a decrease in effectiveness to implement the Emergency Plan.

Specific Guidance. Through a sample review of changes since the last IP 88050 inspection, examine the changes for the following:

a. Determine whether the implementing procedures have been reviewed and approved as specified in the Emergency Plan.

b. Determine whether changes resulted in a decrease in the effectiveness of the Emergency Plan's implementation.

c. Determine whether current copies of the Emergency Plan and implementing procedures are readily available in key emergency facilities or remote locations The inspector should determine whether the regulatee has established provisions for ensuring that the emergency procedures are kept up to date at all remote locations.

d. Determine by interviewing key regulatee management whether they were aware of the changes. The inspectors should interview several members of the emergency staff responsible for implementing the procedures during an emergency, for example, the Emergency Director, an operations manager, a shift firefighter, and a radiation protection technician. The inspectors should use these interviews to determine whether the regulatee's emergency staff are familiar with the procedures and the procedures are "user-friendly."

e. Through discussions with regulatee staff, review a sample of records, review the regulatee's emergency response program to determine whether, for plant changes, all elements identified in the regulations and regulatory guides (10 CFR 40.31(j)(3), 10 CFR 70.22(I)(3), 10 CFR 76.91, and Regulatory Guide 3.67), pertaining to chemical and/or other hazards that have the potential to affect operations with SNM at the facility, are adequately addressed. The inspector should determine whether all conditions identified in the license/certificate and the site Emergency Plan pertaining to chemical hazards are actually implemented in such changes.

Information for Response Groups: Organizations, both onsite and offsite, that are expected to provide assistance during emergencies should be informed of conditions that might be encountered and should be assisted in preparing suitable emergency response procedures. The on- and off-site emergency response personnel, including fire response personnel, should be provided with guidance on fighting fires in fuel handling areas.

Controlled Evacuation of Personnel: Emergency procedures should clearly designate evacuation routes. These routes should follow the quickest and most direct routes practicable. The routes should be clearly identified and should avoid recognized areas of higher risk. The routes should lead personnel to pre-established assembly areas or rally points for accounting.

These evacuation procedures should be made known to all employees in areas which could be affected by radiation from a nuclear criticality. The procedures should also make provision for the evacuation of transient personnel. The emergency procedures should provide instructions on what actions, such as emergency shutdowns, should be performed prior to evacuation.

Controlled Reentry: Reentry should be controlled by written procedures and equipment, such as radios and radiation detection devices and should be available for the reentry team. Field survey instrumentation used for reentry should be capable of providing adequate warning of the recurrence of a criticality excursion. In order to facilitate emergency response, provisions should be made to silence the criticality alarms at an external plant area. Written procedures should require that the alarms be silenced before reentry.

The NCS program should require that reentry and recovery from a limit violation be governed by corrective procedures that ensure the remaining safety margin is acceptable, or not further reduced if already unacceptable. The NCS function should review all recovery procedures.

03.03 Training and Staffing.

The inspector should conduct a walkthrough with key decision-makers and other appropriate individuals to discuss the emergency training that they received. Periodically, key decision-makers with responsibility for event classification should be presented hypothetical accident scenarios to demonstrate familiarity with procedures and the effectiveness of procedural guidance in making event classification, notification, and protective action recommendations. The notification, callout and evacuation procedures should also be discussed to ensure the effectiveness of that training. The purpose of the walkthrough is not to "grade" an individual on his/her knowledge, but to verify that he/she received the proper training and knows what procedures should be implemented in response to certain conditions.

In reviewing the training provided to offsite responders, the inspector should determine whether the regulatee has in place a method to ensure that the training frequency is maintained and that the training content is revised to reflect changes to the plant and onsite hazards. Particular attention should be paid to new processes, buildings, and hazardous chemicals, including their location and inventory. Unique problems, such as water exclusion areas for criticality control, should be clearly identified to off-site responders beforehand.

03.04 Offsite Support Agencies.

Inspector contact with selected agencies need only be established once. However, a followup contact should be done in the event the primary contact for the support agency changes or if serious deficiencies are found involving how the agency interprets its responsibilities. In the event of deficiencies, the regulatee should be informed so that it can take appropriate action to clarify the situation. Such agencies are not regulatees and should only be encouraged (if previously asked by the regulatee) to take part in drills.

Some regulatees are required to comply with the EPA SARA (Superfund Amendment and

Special Reauthorization Act) Title III regulations, also known as the "Emergency Planning and Community Right-To-Know Act" (the Act) of 1986, which specifies action in: (1) emergency response planning, (2) emergency response reporting, (3) hazardous chemical inventory reporting, and (4) toxic chemical release reporting. Review the "Hazardous Chemicals" section of the emergency response plan to determine what requirements apply to the licensee and determine how the licensee certifies compliance with the Act. Determine whether the regulatee reviews major facility and process changes (i.e., addition of new processes or significant changes in process technology and chemistry) to ensure that it remains in compliance with the Act.

03.05 Drills and Exercises.

Determine whether a program is in place to ensure the exercise objectives and scenario details are kept confidential from participants. An effective drill and exercise program requires three critical elements:

a. A credible, technically correct, and challenging scenario to test key elements of the Emergency Plan, procedures, equipment, and the onsite and offsite response organizations;

b. Adequate facilities and resources; and

c. Critical and candid assessment of the response using trained controllers and evaluators.

03.06 Emergency Equipment and Facilities.

It is not intended that all equipment or evacuation points be examined --only a random selection based on the inspector's professional judgment and the regulatee's past performance. Only one offsite sampling area and one criticality badge station need be observed. If problems are identified, the regulatee should take appropriate action to ensure that the remaining stations are unaffected.

03.07 Audits and Assessments.

The auditor should not have direct responsibility for the emergency preparedness program. Determine if the scope and depth of the audit was comprehensive enough to characterize the program state of readiness. The audit should assess the state of readiness of the emergency preparedness equipment, organization, and facilities. Verify the audit periodically include observation of drills and exercises.

## 88050-04 RESOURCES

An inspection performed using this inspection procedure is estimated to require 30 hours of direct onsite inspection effort annually.

## 88050-05 REFERENCES

10 CFR 70.22(I)(3), Emergency planning for Part 70 licensees

10 CFR 40.31(j)(1) and (3), Emergency planning for Part 40 licensees

10 CFR 70.22(g)(I), Footnote Reference - Section IV, "Content of Emergency Plans," Appendix E, 10 CFR 50

10 CFR 76.91, Emergency Planning for Gaseous Diffusion Plants

Reg. Guide 3.16, "General Fire Protection Guide for Plutonium Processing and Fuel Fabrication Plants," January 1974

Reg. Guide 3.67, "Standard Format and Content for Emergency Plans for Fuel Cycle and Materials Facility," Rev. 0, January 1992

Reg. Guide 8.5, "Criticality and Other Interior Evacuation Signals," Rev. 1, March 1981

NUREG-1140, "A Regulatory Analysis of Emergency Preparedness for Fuel Cycle and Other Radioactive Material Licensees," reprinted 1987

NUREG-1320, "Nuclear Fuel Cycle Accident Analysis Handbook," 1988

NUREG-1520, Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility

ANSI/AN-8.3-1986, "Criticality Accident Alarm System"

NRC Information Notice No. 89-46, "Confidentiality of Exercise Scenarios"

NRC Memorandum from R. M. Bernero and E. L. Jordan to J. M. Taylor, "Lessons Learned Review of the Sequoyah Fuels Corporation Event of November 17, 1992," dated October 27, 1994

OSHA, *Process Safety Management of Highly Hazardous Chemicals*, 29 CFR 1910.119 (n), "Emergency Planning and Response"

EPA, *Risk Management Programs for Chemical Accident Release Prevention*, 40 CFR Part 68, Section 68.45, "Emergency Response Program"

Chemical Manufacturers Association, *Responsible Care®, Process Safety Code of Management Practices*, Washington, 1990

Nuclear Regulatory Commission, *Inspection Procedure 88050*, "Emergency Preparedness", Latest Revision

Center for Chemical Process Safety, *Guidelines for Vapor Release Mitigation*, American Institute of Chemical Engineers, 1988

Center for Chemical Process Safety, *Guidelines for the Safe Storage and Handling of High Toxic Hazard Materials*, American Institute of Chemical Engineers, 1988

NRC Letter from E.J. McAlpine to Region II licensees,"Submittal of Exercise Objectives and Scenario Details," dated November 20,1996

NRC Policy and Guidance Directive FC 84-14, "Standard Review Plan For Emergency Plans For Fuel Cycle and Material Licensee's, Rev. 1, March 1994

END

ATTACHMENT 1

Revision History for IP 88050

| Commitment Tracking Number | Issue Date | Description of Change | Training Needed | Training Completion Date | Comment Resolution Accession Number |
|---|---|---|---|---|---|
| | 09/05/06<br>CN 06-020 | IP 88050 has been revised to reduce duplication and improve effectiveness and efficiency by incorporating and consolidating inspection requirements involving emergency preparedness and removing inspection requirements for evaluation of exercises and drills. | None | N/A | ML061790257 |
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